We claim:

1.   A pattern inspection method for judging non-matching parts to be defects by making a comparison between the same patterns having a line part in which a line extending in the longitudinal or transverse direction appears repetitively at a fixed pitch,

wherein gray level data is generated by capturing the image of the pattern,

wherein difference data is generated by calculating the difference in the gray level data between corresponding pixels of patterns to be compared,

wherein average gray level data is generated by calculating the average level of the gray level data for each pixel column in the direction in which the line extends in a fixed range in the line part,

wherein a type of the area to which each pixel column belongs is determined by statistically processing the average gray level data,

wherein a threshold value is determined for each area according to the statistical processing result of the type of the area and the difference data of each pixel column, and

wherein the difference data of each area is compared with the threshold value and the part where the difference data is larger than the threshold value is judged to be a defect.

2.   A pattern inspection method, as set forth in claim 1, wherein the direction in which the line extends, and the fixed range in the line part, are set based on the data of patterns to be inspected.

3.   A pattern inspection apparatus for judging non-matching parts to be a defect by making a comparison between the same patterns having a line part in which a line extending in the longitudinal or transverse direction appears repetitively at a fixed pitch, comprising:

an image generation apparatus for

generating a multi-valued image of the pattern;

a difference data generation circuit for generating difference data by calculating the difference between two patterns to be compared;

5   an average gray level generation section for generating average gray level data by calculating the average level of the gray level data for each pixel in the direction in which the line extends in a fixed range in the line part;

10   an area type determination section for determining a type of the area to which each pixel column belongs by statistically processing the average gray level data;

a threshold value determination section

15   for determining a threshold value for each area according to the statistical processing result of the type of the area and the difference data of each pixel column; and

a judgment section for comparing the difference data of each area with the threshold value and

20   judging the part where the difference data is larger than the threshold value to be a defect.

4.   A pattern inspection apparatus, as set forth in claim 3, further comprising a condition setting means for setting the direction in which the line extends and the

25   fixed range in the line part.